Appendix A

Wildlife Biological Evaluation

BIOLOGICAL EVALUATION
OF
THREATENED, ENDANGERED, AND SENSITIVE
WILDLIFE

Cultus Lake Resort Improvements

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EXECUTIVE SUMMARY

This biological evaluation (BE) describes and displays any effects to threatened, endangered and sensitive (TES) fauna species associated with the Cultus Lake Resort Improvements Project on the Bend/Fort Rock Ranger District.

The project Environmental Analysis (EA) considers three alternatives, including the No Action alternative. The proposed action involves the construction of a new parking lot and a new shower and laundry/housing facility at the Cultus Lake Resort. The project is entirely within the Cultus Lake Late-Successional Reserve, a northern spotted owl Critical Habitat Unit (CHU), and is within the .7-mile buffer around an historic spotted owl nest site. It is also within suitable habitat for the bald eagle.

The project May Affect but is not likely to Adversely Affect the northern spotted owl and a spotted owl Critical Habitat Unit. The project is not consistent with Project Design Criteria (PDC) I and II of the 2001-2003 Joint Aquatic and Terrestrial Programmatic BA. The project is consistent with PDC I and II for all other listed species that occur in the area.

Summary of Conclusions

The project area does not contain habitat for the following species: Preble's shrew, Long-billed curlew, Ferruginous Hawk, American Peregrine Falcon, Greater Sandhill Crane, Western Big Eared Bats, Oregon Spotted Frog, and Canada Lynx. The project would have **No Effect** on these species or their habitat.

Northern Bald Eagle: The project area contains potential habitat for the bald eagle, and this species is occasionally seen at Cultus Lake**.** There are no known eagle nest sites within ¼ mile (½ mile line-of-sight) of the project area. All alternatives would be consistent with the PDCs for the northern bald eagle.

Alternatives 1, 2, and 3*:* The No Action alternative as well as the action alternatives would have **No Effect** on bald eagles and their habitat.

Northern Spotted Owl: The project area is within a spotted owl Critical Habitat Unit, within mapped Nesting, Roosting, and Foraging (NRF) habitat, and within the .7-mile buffer surrounding an historic nest site. The project area is within a mapped nesting, roosting, foraging (NRF) stand for the owl. Action alternatives are NOT consistent with the 2001-2003 Joint Aquatic and Terrestrial Programmatic BA in the following elements:

Criteria I

Within CHUs, LSRs, and Core areas:

- Project activities will not remove, downgrade, or degrade the primary constituent elements for critical habitat (USDI 1992b). The physical and biological features include but are not limited to the following:
  - (A) Dispersal - space for individual and population growth, and for normal behavior;
  - (B) Foraging - food, water, or other nutritional or physiological requirements;
  - (C) Roosting - habitat or shelter;
  - (D) Nesting - sites for breeding, reproduction, rearing of offspring; and
  - (E) Connectivity/fragmentation - habitats that are protected from disturbance or are representative of the historical, geographical, and ecological distributions of the species.

- All vegetation manipulations within plant associations that are capable of sustaining NRF habitat need to promote the development of late-successional and old-growth conditions (USDA and USDI 1994a).

Criteria II

Within CHUs

- Forested stands not capable of becoming NRF habitat should be managed to provide dispersal habitat (USDI 1992b).

Alternative 1: The No Action Alternative would have **No Effect** on the northern spotted owl or its habitat.

Alternatives 2 and 3:

Northern spotted owls and primary constituent elements of CHU:

- **May Effect – Not Likely to Adversely Affect** – Alternatives 2 and 3 would remove primary constituent elements of a CHU.

Mitigation Measures
None were identified.

Recommendations
None were identified.

USFWS Contact: Jennifer O'Reilly

I. INTRODUCTION

This Biological Evaluation documents the review and findings of Forest Service planned programs and activities for possible effects on species (1) listed or proposed for listing by the USDI Fish and Wildlife Service (USFWS) as Endangered or Threatened; or (2) designated by the Pacific Northwest Regional Forester as Sensitive. It is prepared in compliance with the requirements of Forest Service Manual (FSM) 2630.3, FSM 2670-2671, FSM W.O. Amendment 2600-95-7, and the Endangered Species Act (ESA) of 1973 (Subpart B; 402.12, Section 7 Consultation).

Proposed, Endangered, Threatened, or Sensitive species considered in this evaluation are those listed in FSM 2670.44, R-6 Interim Directive No. 90-1, March, 1989 as suspected or documented to occur on the Deschutes National Forest. Listed animal species and their listing status are in Appendix 1.

The following analysis addresses the potential effects of the Cultus Lake Forest Service Improvements Project on threatened, endangered, proposed and sensitive animal species. This determination, required by the Interagency Cooperation Regulations (Federal Register: January 4, 1978), ensures compliance with the Endangered Species Act of 1973, P. L. 93-205 (87 Stat.884) as amended.

Project Area Location
The project would take place in T20S, R7E, Sec. 24, at the Cultus Lake Resort. The project area is within the Cultus-Sheridan Late-Successional Reserve (NWFP), and in M11-Intensive Recreation (LRMP). It is within the .7-mi buffer placed around an historic northern spotted owl nest site, and is within a designated Critical Habitat Unit for the owl, and is within a stand of identified Nesting, Roosting, Foraging (NRF) habitat. It is in a Riparian Reserve, as described in the NWFP. The Cultus-Sheridan LSR Assessment (1996) placed this area in MSA-C, Mixed Conifer Dry.

Cultus Resort is located in a stand of mature mixed conifer, dominated by large-diameter Douglas-fir and ponderosa pine, with true fir in the understory. The majority of the project would take place in the disturbed area within the Resort's permit boundary, but Alternative 3 involves a moderately disturbed site outside of the current permit area.

Cultus Mountain Late-Successional Reserve
The Cultus Mountain LSR is approximately 18,000 acres, with 3,851 acres of NRF and 15,086 acres of spotted owl Critical Habitat Unit. The legal description for the area is T19S, R08E, Sections 29-32; T20S, R07E, Sections 13-16, 21-28, 33-36; T20S, R08E, Sections 4-9, 16-20, 30-31; and T21S R07E, Sections 1, 3, 4. The elevation range of the LSR is from 4,460 feet at Cultus River to 6,720 feet at the top of Cultus Mountain. The landscape is diverse with flat areas in the lower elevations transitioning to mild undulating slopes into the higher elevations or when major geographic features are encountered.

Benchmark Butte is a dacite dome with steep sides and a flat top. A large spring at the southern base of the butte feeds the Cultus River. Cultus Mountain is the prominent geographic feature within the project area and has slopes that range from 30% to 60%. Cultus Lake is a popular summer destination for sailing, water skiing, and use of personal watercraft; its campground, day-use areas, boat ramp and resort receive a great deal of use all season long. Little Cultus Lake and Deer Lake also provide summer recreation opportunities, as do a variety of hiking, mountain biking, and horseback riding trails.

The Many Lakes proposed Natural Research Area (RNA), the Cultus River proposed RNA and three RARE II Inventoried Roadless areas are within the LSR.

There are five historic spotted owl nest sites (owl pair numbers 1001, 1002, 1003, 1004 and 1006, see attached map) in the Cultus Mtn. LSR.

Project Description

In addition to the No Action Alternative (Alternative 1), the project Environmental Assessment considers two action alternatives:

Alternative 2 (Proposed Action)

- Provide a new defined parking area that would accommodate approximately 18-20 vehicles. The dimensions of the new lot would be approximately 60' x 120' (7,200 ft^2). The lot would be leveled by cutting material from the south side of the area and filling on the north side. The lot would be surfaced with gravel. Approximately 25 trees less than 15" diameter at breast height (dbh) would be removed.

- A two-story building with public shower and laundry facilities on the first floor and employee housing on the second would be provided. The building would be approximately 20' x 30' and would be located outside the riparian reserve. A small (30' x 60') parking lot would be provided adjacent to the building. Construction of these facilities would require minimal clearing of upland vegetation.

- A new septic system, meeting Department of Environmental Quality standards, would be constructed. The drain field would be approximately 170' x 170' x 50' x 135' (approximately 13,900 ft^2) and would utilize about 1250 lineal feet of pipeline (it is estimated that the system would require between 850 and 2975 lineal feet of line). The majority of trees in the drain field area would have to be removed, but most large trees (15' dbh and greater) would be retained. Approximately 140 trees would be removed to allow construction of the drain field; tree species would include ponderosa pine, Douglas-fir, true fir, and western white pine.

Alternative 3 (Preferred Alternative)

- Provide a new defined parking area that would accommodate approximately 18-20 vehicles. The dimensions of the new lot would be approximately 60' x 160' (9,600 ft^2). The lot would be leveled by cutting material from the south side of the area and filling on the north side. The lot would be surfaced with gravel. Approximately 35 trees less than 15" dbh would be removed. The resort permit boundary would be extended to accommodate the new parking lot.

- Provide a new laundry and shower/housing facility as described in Alternative 2.

- Construct a septic system as described in Alternative 2.

II. SUMMARY OF EVALUATION PROCESS

Pre-field Review

The following threatened, endangered or sensitive animal species are either known to occur or may potentially occur on the Bend-Ft Rock District:

Table 2. Species addressed in this Biological Evaluation.

SPECIES	COMMON NAME	FEDERAL CLASSIFICATION
Birds		
Haliaeetus leucocephalus	Northern bald eagle	T
Strix occidentalis caurina	Northern spotted owl	T

Buteo regalis	Ferruginous hawk	S, SOC
Falco peregrinus anatum	American peregrine falcon	S
Histrionocus histrionicus	Harlequin duck	S, SOC
Numenius americanus	Long-billed curlew	S
Centrocercus urophasianus	Western sage grouse	S, SOC
Grus canadensis tabida	Greater sandhill crane	S
Mammals		
Lynx canadensis	Canada lynx	T
Gulo gulo luteus	California wolverine	S, SOC
Corynorhinus townsendii	Western big-eared bat	S, SOC
Sorex preblei	Preble's shrew	S, SOC
Sylvilagus idahoensis	Pygmy rabbit	S, SOC
Amphibians		
Rana pretiosa	Oregon spotted frog	C
Key to abbreviations: T=Threatened, E=Endangered, P=Proposed for Federal listing, S=USFS Region 6 Sensitive, C=USFWS Candidate species, SOC=USFWS Species of Concern		

The proposed project area was evaluated to determine which species might occur based on the presence of required habitats and known locations.

Suitable habitat occurs in the project area for the bald eagle and the spotted owl. The project area is within a northern spotted owl Critical Habitat Unit, mapped Nesting, Roosting, Foraging (NRF) habitat, and is within the .7-mile buffer around an historic spotted owl nest.

III. AFFECTED WILDLIFE

A discussion of the effects of the proposed project alternatives on TES wildlife species follows. All species on the R-6 TES Species List that have potential habitat within the project area on the Bend-Ft. Rock District were considered. References for this determination are listed at the end of this document.

The 2001-2003 Joint Aquatic and Terrestrial Biological Assessment established project design criteria on two levels; 1) CRITERIA I; must be used by the action agency (i.e. ESA requirements, current management direction, and standards and guidelines from the Deschutes LRMP, as amended); and 2) CRITERIA II; discretionary for use by the action agency.

NORTHERN BALD EAGLE
(*Haliaeetus leucocephalus)*

Status:
U.S. Fish and Wildlife Service – Threatened
State of Oregon – Threatened

Pre-field Review
A review of District wildlife records indicated that the closest known eagle nest to the project area is approximately 2.4 air miles away. Although eagles are occasionally observed near the project area, they are not regular inhabitants of this area; it is likely that current levels of recreation on Cultus Lake preclude regular use by eagles.

Discussion of Project Design Criteria

CRITERIA I:

a. All land allocations
    1. Do not approve human disturbance in excess of base levels that were occurring in 1999 (e.g. snowmobile, prescribed burning, automobile traffic, camping, hunting, firearm use, low level aircraft operation below 2,500 feet, recreational events) within ¼-mile non line-of-sight or ½-mile line-of-sight (1.0 mile for blasting) of known bald eagle nests between January 1 and August 31. This condition may be waived in a particular year if nesting or reproductive success surveys reveal that bald eagles are non-nesting or that no young are present that year. Waivers are valid only until January 1 of the following year (USDA 1990a and USDI 1986).

b. For eagle use areas outside of BEMAs (USDA 1990a, WL-1)
    1. A biological evaluation will be conducted or reviewed by a journey-level biologist to determine if the use of the area by eagles is incidental or essential.
    2. If it is determined to be essential habitat, protect it from adverse modification through curtailment of conflicting activities, modification of activities, seasonal restriction of activities, or avoidance of the area.
    3. For newly discovered essential habitat, conduct an analysis to determine if it is necessary to designate the area as essential habitat. If so, the land and resource management plan should be amended and the essential habitat designation will supersede previous land allocations, or can be substituted for other habitat allocated to threatened or sensitive species.
    4. Predator and rodent control using baited traps and/or poisons should not take place within 1 mile of an active bald eagle nest or 440 yards of a known roost site.

c. BEMAs and any essential habitat (as determined by steps in I b.)
    1. Do not allow fuelwood gathering between January 1 and August 31 annually if a bald eagle nest site is active. No standing dead tree is to be cut or removed at any time of the year. Down woody material may be gathered outside of the nesting season (USDA 1990a).
    2. Prescribed fire managers need to use smoke management forecasts in order to minimize smoke entering into suitable habitat and to ensure that dissipation would be adequate.
    3. Predator and rodent control using baited traps and/or poisons will not take place within BEMAs (USDA 1990a).
    4. All vegetation manipulations need to promote the development of large trees capable of supporting future bald eagle nesting, perching, and roosting regardless of other land allocations within the BEMA. While some timber harvest is scheduled in this Management Area, it is only for the purpose of initiating long-term stand management to achieve bald eagle habitat objectives. Precommercial thinning is allowable to promote the development of large trees. All vegetation manipulation activities must be analyzed with a biological evaluation in a long-range management plan (USDA 1990a).
    5. All snags that are eagle perches within 500 meters (1650 feet) of nests or roosts should be preserved. In addition, all snags utilized for roosting or foraging within nesting territories or communal roosts should be protected (USDI 1986).
    6. Development of new recreation facilities or expansion of existing facilities that will increase the amount, type, or area of use, such as campgrounds and resorts, is not compatible with the goals of this management area and will not be authorized (USDA 1990a).
    7. Protect all existing nesting, roosting, and perch trees. Generally, these are any live trees (Douglas-fir, ponderosa pine, etc.) or snags over 21" in diameter at breast height (USDA 1990a).

Criterion I is met. Although bald eagles are occasionally seen at Cultus Lake, there are no known nesting locations in the near vicinity. The project area is not within a BEMA, and eagle use near the project area is incidental. The project is not expected to result in increased recreational use of Cultus Lake.

CRITERIA II:

a. All land allocations.
    1. All category I criteria should be applied to Bald Eagle Consideration Areas (BECAs) within non-essential foraging, perching, and roosting areas outside of established BEMAs.

Criterion II is not applicable.

Determination of Effects

No direct, indirect, or cumulative effects are expected to result from the any alternative.

Conclusions

The project would have **No Effect** on bald eagles or their habitat.

NORTHERN SPOTTED OWL
(*Strix occidentalis caurina*)

Status:
U.S. Fish and Wildlife Service – Threatened
State of Oregon - Threatened

Pre-field Review
The project is within the .7-mi buffer around historic spotted owl nest #1001. Spotted owl pair #1001 was first detected in 1975. The owls were relocated several times between 1985 and 1990; nesting was confirmed in 1988, when one owlet was observed. Efforts to relocate the pair in 1993, 1995, 1996, and 2000 yielded no response, but an owl pellet and the tail of a flying squirrel were found within the home range in 1996. This home range was surveyed in the summer of 2002 and the spring of 2003, meeting the requirements of the two-year Regional Survey Protocol, as part of the analysis for the Cultus Lake Resort Improvements Project; there were no detections.

Discussion of Project Design Criteria
CRITERIA I:

a. All land allocations
   1. Disruptive work activities will not take place within 1/4 mile (1.0 mile for blasting) of the nest site or activity center of all known pairs or resident singles between March 1 and September 30. If activities occur within the nesting period, an incidental take permit is required. The boundary of the 1/4-mile area may be modified by the District Wildlife Biologist based on topographic breaks or other site-specific information (generally, a 125-acre area will be protected). This condition may be waived in a particular year if nesting or reproductive success surveys reveal that spotted owls are non-nesting or that no young are present that year. Waivers are valid only until March 1 of the following year (USDI 1991).
   2. Work will occur outside restriction periods unless emergency work is warranted (trees falling on power lines, hazard tree poses immediate threat to people or facilities, etc.).
   3. Hazard trees will not be removed unless down wood needs per the LSR Assessment or LRMP as amended are met. Down wood assessments will be made in the immediate project area to determine down log needs and hazard trees will be felled and left to meet goals for that vegetation type.

   Exceptions to the above PDC will be determined on a case-by-case basis.

   4. If hazard trees pose a liability to recreation residences, private landowners, campgrounds, or special use permittees, hazard trees may be felled. Removal of down wood in recreation residences and campgrounds will be determined on a case-by-case basis.
   5. All projects that are within suitable nesting, roosting, and foraging (NRF) habitat will be surveyed to regional protocol prior to habitat-disturbing activities (USDA and USDI 1994a) or seasonal restrictions will be implemented.

b. Within CHUs, LSRs, and Core areas
   1. Project activities will not remove, downgrade, or degrade the primary constituent elements for critical habitat (USDI 1992b). The physical and biological features include but are not limited to the following:
      (A) Dispersal - space for individual and population growth, and for normal behavior;
      (B) Foraging - food, water, or other nutritional or physiological requirements;
      (C) Roosting - habitat or shelter;
      (D) Nesting - sites for breeding, reproduction, rearing of offspring; and
      (E) Connectivity/fragmentation - habitats that are protected from disturbance or are representative of the historical, geographical, and ecological distributions of the species.
   2. All vegetation manipulations within plant associations that are capable of sustaining NRF habitat need to promote the development of late-successional and old-growth conditions (USDA and USDI 1994a).
   3. All projects must meet objectives for dead and down woody material by PAG as outlined in the desired LSR condition white paper (USDA 1996).

Criterion 1b is NOT met. The project area is located within a CHU, an LSR and a Core Area. Removal of 150-200 trees from the project area would remove and downgrade dispersal and foraging habitat, primary constituent elements for critical habitat.

Additionally, the project is located in mixed conifer dry, a plant association that is capable of sustaining NRF habitat. The removal of trees from the project areas does not promote the development of late-successional and old-growth conditions. It should be noted, however, that the project area is unlikely ever to develop NRF habitat, as its current levels of vehicle traffic and soil compaction would prevent the growth of late-successional stand characteristics.

c. Matrix
    1. Maintain 100 acres of NRF habitat (core area) around all known (as of January 1, 1994) activity centers (USDA and USDI 1994a). Where adequate NRF habitat is not available, retain all NRF habitat and the next best available habitat to meet the 100-acre minimum.
    2. Landscape areas where little late-successional forest persists should be managed to retain the remaining late-successional forest. Maintain all late-successional patches in fifth field watersheds in which federally managed forest lands are currently comprised of 15% or less late-successional forests; this should be calculated using all land allocations within the watershed. (USDA and USDI 1994a).
    3. Maintain dispersal habitat between 100-acre core areas and LSRs to provide connectivity (USDA 1996).

Criterion Ic is not applicable.

CRITERIA II:

a. All land allocations
    1. Prescribed fire managers need to use smoke management forecasts in order to minimize smoke entering into suitable habitat and to ensure that dissipation would be adequate.
    2. Options for reducing hazards should be explored: topping, closing or moving sites, etc.

b. Within CHUs

Forested stands not capable of becoming NRF habitat should be managed to provide dispersal habitat (USDI 1992b).

c. Matrix
    1. Maintain all existing NRF habitats for connectivity.
    2. Promote climatic climax late-successional and old-growth habitat within those plant associations capable of sustaining NRF habitat.
    3. On lands not capable of becoming NRF, but capable of sustaining fire climax late-successional and old-growth habitats for other species than the spotted owl, apply silvicultural treatments to promote that development of habitat.
    4. Maintain 100 acres of NRF habitat (core areas) around all newly discovered activity centers.

Criterion IIb is NOT met. With current management and levels of recreational use, the resort area is unlikely ever to function as NRF habitat; therefore, it must be managed to provide dispersal habitat. Removal of 150 - 200 trees from the project area would downgrade the ability of the site to function as dispersal habitat.

Determination of Effects

The project would take place during the recreation season (summer and early fall) of 2003, during the nesting season of the northern spotted owl. Spotted owl surveys were completed in 2002 and 2003, with no detections; there have been no detections in any survey since 1990. Current levels of recreational use at Cultus Lake likely preclude any sustained use of adjacent habitats by spotted owls. Ambient noise associated with the project is not likely to be greater than the existing noise created by vehicle traffic, watercraft motors, and the routine operation and maintenance of the resort. If owls were nesting near the project area, noise from the project would not likely affect them.

The project would involve direct removal of habitat from a CHU. Although the project area is located in disturbed sites that are currently being utilized as parking and storage areas for existing designated recreational facilities, the habitat could still be considered potential foraging and/or dispersal habitat for the owl. The project would directly affect not more than one acre of land; therefore, the project would affect .005% of the LSR, .006% of the CHU, .025% of the NRF stand, and .004% of the Cultus Lake Subwatershed (see Table 1).

Due to the extremely limited size of the project relative to the entire LSR, CHU, and the Cultus Lake Subwatershed (see Table 1), direct effects, while present, would be minor. Overall, the project is expected to have a neutral effect on the LSR, CHU, the subwatershed, and the northern spotted owl.

Table 1. Percentage of Management Areas Affected by the Proposed Action.

	Cultus Mountain LSR (18,000 ac)	Critical Habitat Unit (15,086 ac)	Cultus Lake Subwatershed (23,868 ac)	NRF Habitat within LSR (3,851 ac)
Project Area (1 ac)	.006%	.007%	.004%	.026%
Boundary Increase (1.4 ac)	.008%	.009%	.006%	.036%
Total Resort Area Before Treatment (6.5 ac)	.036%	.043%	.027%	.169%
Total Resort Area after Increase (7.9 ac)	.044%	.052%	.033%	.205%

Indirect Effects
The project would increase the size of the Cultus Lake Resort by 1.4 acres, taking the total acreage of the Resort to 7.9 ac. The area intended to be incorporated into the boundary has already been in use by the Resort as a storage area, and is already in a disturbed condition. The project could indirectly affect the spotted owl because the additional 1.4 acres would be committed to the Resort. Overall, though, this would be an extremely minor change in available spotted owl habitat (see Table 1).
The project is intended to manage existing recreational use at the Resort, and is not expected to result in additional recreation-associated disturbance. No indirect effects due to increased disturbance are expected.

Cumulative Effects
Along with this project, the Cultus Lake Forest Service Improvements Project could take place in the Cultus Mountain LSR in the reasonably foreseeable future. The Forest Service Improvements Project would redesign the Cultus Lake Boat Ramp and adjacent parking areas, and is not likely to impact spotted owl habitat. An additional reasonably foreseeable action could occur if the new drain field should fail, in which case a new drain field, similar to the one described in this document, would need to be constructed. The proposed project addressed in this BE is of extremely limited scope (see Table 1) and it is unlikely that this project would exacerbate any effects that would happen as a result of the other projects proposed in this area.

Summary of Effects
The project is of limited scope and would occur in an area that is already disturbed and receiving recreational use. While the project is within a stand of mapped NRF habitat, disturbance associated with current levels of recreation would likely preclude any sustained use of this area by spotted owls. The historic spotted owl nest, whose .7-mi buffer encompasses the project area, is not thought to have been occupied since 1990 or earlier. The project design is not consistent with Project Design Criteria I and II for the northern spotted owl; effects that downgrade or degrade the CHU would be present, but would be minor. The project **May Affect but is not Likely to Adversely Affect** the spotted owl and its habitat.

Mitigation Measures
No mitigation measures were identified.

Recommendations
It is recommended that some of the removed trees be retained near the parking lot as down material to help protect and rehabilitate habitat and vegetation, and contribute to meeting Aquatic Conservation Strategy objectives.

VI. REFERENCES

1. Bend-Fort Rock District Project Surveys and Wildlife Sightings Records.
2. USDA Forest Service. 2001. Joint Terrestrial and Aquatic Programmatic Biological Assessment, 2001-2003. Bend, Oregon.
3. USDA Forest Service. Forest Service Manual 2670.44, Region 6 Interim Directive No. 6, August 15, 1989. (Region 6 Sensitive Species List).
4. U.S. Fish and Wildlife Service List of Endangered and Threatened Wildlife and Plants (March 1, 1989).

Appendix B

Wildlife Biological Assessment

BIOLOGICAL ASSESSMENT
FOR THE
CULTUS LAKE RESORT IMPROVEMENTS PROJECT

BEND-FORT ROCK RANGER DISTRICT
DESCHUTES NATIONAL FOREST

February 3, 2003

INTRODUCTION

The purpose of the Biological Assessment (BA) is to determine and document how proposed actions are likely to affect any threatened, endangered or proposed species listed under the Endangered Species Act of 1973 (ESA), as amended. All Forest Service projects, programs and activities require review and documentation of possible effects on Proposed, Endangered, and Threatened species. Forest Service Policy requires that all actions be taken to "assure that management activities do not jeopardize the continued existence of listed species or result in an adverse modification of their essential habitat" (FSM 2670.3). Section 7 of the Endangered Species Act of 1973 (ESA), as amended, directs each Federal agency to insure that any action it authorizes, funds or carries out is not likely to jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of their critical habitat.

This BA assesses the effects of the preferred alternative for a facilities improvement project on the northern spotted owl (*Strix occidentalis caurina)*. Federal actions covered by this document include approval of the Resort's proposal to add a new parking area, a new laundry and shower facility, and a new septic system to its operation. This document serves to initiate informal consultation for the Cultus Lake Resort Improvements Project on the Bend-Fort Rock Ranger District.

Elements referring to "the project," "project activities," or "management actions" within this document are in effect referring to activities related to the above project. Effects of the project are evaluated within this assessment only for the northern spotted owl.

Activities proposed under the above-listed project that are within spotted owl habitat and do not meet one or more Project Design Criteria (PDCs) as outlined for the northern spotted owl within the Joint Aquatic and Terrestrial Programmatic Biological Assessment (BA), April 2000 – April 2001 for Federal Lands within the Deschutes Basin Administered by the Bureau of Land Management Prineville Office and for Federal Lands Administered by the Deschutes and Ochoco National Forests (hereafter referred to as the 2000 Programmatic BA) are addressed within this document.

I. DESCRIPTION OF THE PROPOSED ACTIONS.

A new laundry/shower/housing facility would be constructed within the existing resort permit area. The facility would be approximately 20' x 30', would be located in an area that requires minimal clearing of upland vegetation, and would be located outside of Riparian Reserves. To provide additional employee housing, living quarters would be provided above the shower and laundry facility. A new drain field would be constructed nearby. The drain field would occupy an area approximately 14,000 ft^2. Approximately 140 trees under 15" dbh would be removed; tree species to be removed would include ponderosa pine, Douglas-fir, true fir, and western white pine. A small (30' x 60') defined parking area would be provided adjacent to the new facility.

A new parking area would be constructed at the west end of the resort permit area, in an area that was previously partially cleared and is currently being used for storage. The lot would be approximately 160' x 60' (9,600 ft^2) and would accommodate head-in parking for a total of approximately 25 - 30 vehicles. The lot would be widened by approximately 5-10', and leveled by cutting material from the south side of the area and filling on the north side. Approximately 35 trees 15"

dbh and smaller would be removed. The lot would be surfaced with gravel. The resort permit area boundary would be extended to accommodate the new parking lot.

The change in the boundary would increase the total size of the resort from 6.5 to 7.9 acres, an increase of 1.4 acres; the project itself would directly impact about .5 – 1 acre of land.

II. DESCRIPTION OF THE SPECIES (Northern spotted owl, *Strix occidentalis caurina*).

Spotted owls generally require mature or old-growth coniferous forest with complex structure including multiple canopy layers, large green trees and snags, heavy canopy habitat, and coarse woody material on the forest floor. A wide variety of forest types are utilized. Nesting, roosting, and foraging (NRF) habitat for the northern spotted owl on the Deschutes NF includes stands of mixed conifer, ponderosa pine with white fir understory, and mountain hemlock with subalpine fir. Suitable nest sites are generally in cavities in the boles of either dead or live trees. Platform nests, including abandoned raptor nests, broken treetops, mistletoe brooms, and squirrel nests, are used more rarely. Relatively heavy canopy habitat with a semi-open understory is essential for effective hunting and for owl movement. Habitat conditions that support good populations of flying squirrels, wood rats, tree voles, and other nocturnal or crepuscular small mammals, birds, and insects are essential to supporting spotted owls. Edge effects from large forest openings may adversely impact the microhabitat conditions necessary for suitable owl habitat as well as contribute to increasing the risk to spotted owls imposed by predators or to competition from the barred owl (*Strix varia*).

Spotted owls will use younger, managed forests provided that key habitat components are available. These younger forests provide dispersal habitat for owls and foraging habitat if near nesting or roosting areas. Dispersal habitat is defined as older forests that occur in Riparian Reserves, Administratively Withdrawn Areas, 100-acre core areas, and Late Successional Reserves (LSRs) less than 10,000 acres in size (management guidance for spotted owl consultation is found in the USFS, BLM, USFWS Section 7 Consultation Guidance for the Forest Ecosystem Plan - Fiscal Year 1994 and 1995 Projects (August 1994). It may also include stands that have at least an 11" average tree diameter and at least 40% canopy closure (ISC 1990, USFWS 1991) or using local forest conditions and local biological knowledge of what is likely to be dispersal habitat (DNF Forest Supervisor 2670 letter, January 26, 1996). Stands are delineated as dispersal habitat if they link NRF habitat or buffer intact stands of NRF habitat.

III. DESCRIPTION OF THE ACTION AREA (see attached map):

A. The Cultus Mountain Late-Successional Reserve

The Cultus Mountain LSR is approximately 18,000 acres, with 3,851 acres of NRF and 15,086 acres of spotted owl Critical Habitat Unit (CHU). Within the CHU, there are approximately 13,751 acres of suitable spotted owl habitat (NRF and dispersal habitat) and 1,335 acres of unsuitable habitat. The legal description for the area is T19S, R08E, Sections 29-32; T20S, R07E, Sections 13-16, 21-28, 33-36; T20S, R08E, Sections 4-9, 16-20, 30-31; and T21S R07E, Sections 1, 3, 4.

The elevation range of the LSR is from 4,460 feet at Cultus River to 6,720 feet at the top of Cultus Mountain. The landscape is diverse with flat areas in the lower elevations transitioning to mild undulating slopes into the higher elevations or when major geographic features are encountered. Benchmark Butte is a dacite dome with steep sides and a flat top. A large spring at the southern base of the butte feeds the Cultus River. Cultus Mountain is the prominent geographic feature within the project area and has slopes that range from 30% to 60%. Cultus Lake is a popular summer destination for sailing, water skiing, and use of personal watercraft; its campground, day-use areas, boat ramp and resort receive a great deal of use all season long. Little Cultus Lake and Deer Lake also provide summer recreation opportunities, as do a variety of hiking, mountain biking, and horseback riding trails.

The Many Lakes proposed Research Natural Area (RNA), the Cultus River proposed RNA and three RARE II Inventoried Roadless areas are within the LSR.

There are five historic spotted owl nest sites (owl pair numbers 1001, 1002, 1003, 1004 and 1006, see attached map) in the Cultus Mtn. LSR.

Spotted owl pair #1001 was first detected in 1975. The owls were relocated several times between 1985 and 1990; nesting was confirmed in 1988, when one owlet was observed. Efforts to relocate the pair in 1993, 1995, 1996, and 2000 yielded no response, but an owl pellet and the tail of a flying squirrel were found within the home range in 1996. This home range was

surveyed four times in 2002, for the first year of the two-year Regional Survey Protocol, as part of the analysis for the Cultus Lake Resort Improvements Project; there were no detections.

Spotted owl pair #1002 has been detected regularly from 1990 to 2002. Nesting status has never been verified, but non-reproduction has been inferred.

The nest of spotted owl pair #1003 was located in 1990, and reproduction was confirmed. In 1993, one of the adult birds was found dead on the nest. A pair of owls was located roosting in this home range again in 1995, and in 1996, an owlet was found roosting in the area (no adults were located, and species of the owlet was unconfirmed). Owls were heard in this area again in 1998 and 1999, but there have been no detections since then.

An owl was first detected at site #1004 in 1989; a pair was located in 1990 and again in 1993. Reproduction was inferred in 1993. In 1995, a male spotted owl was heard vocalizing in the distance to the south of this home range, but the home range itself appeared to be occupied by a barred owl, which was heard on three separate occasions. This home range has not been surveyed since then.

Owl pair #1006 was first detected in 1989, and reproduction was confirmed in 1992. A pair was located in this home range in 1995; reproductive status is unknown. This home range has not been surveyed since 1995.

B. The Project Area

The project would take place in T20S, R7E, Sec. 24, at the Cultus Lake Resort, in the Cultus Lake Subwatershed (23,868 acres). The project area is within the Cultus Mountain Late-Successional Reserve (NWFP), and in M11-Intensive Recreation (LRMP). It is within the .7-mi buffer placed around spotted owl site #1001, is within a designated CHU for the owl, and is within a stand of identified Nesting, Roosting, Foraging (NRF) habitat. It is in a Riparian Reserve, as described in the NWFP. The Cultus Mountain and Sheridan Mountain LSR Assessment (1996) placed this area in Management Strategy Area-C, Mixed Conifer Dry.

Cultus Resort is located in a stand of mature mixed conifer, dominated by large-diameter Douglas-fir and ponderosa pine, with true fir in the understory. The majority of the project would take place in the disturbed area within the Resort's permit boundary, but also involves a moderately disturbed site outside of the current permit area.

IV. EFFECTS OF THE PROPOSED ACTIONS ON THE NORTHERN SPOTTED OWL AND ITS DESIGNATED CRITICAL HABITAT.

Direct Effects

The project would take place during the recreation season (summer and early fall) of 2003, during the nesting season of the northern spotted owl. Spotted owl surveys were completed in 2002, and the site had previously been surveyed several times since the last time the owls were detected in 1990; there have been no detections in any survey since 1990. Current levels of recreational use at Cultus Lake likely preclude any sustained use of adjacent habitats by spotted owls. Ambient noise associated with the project is not likely to be greater than the existing noise created by vehicle traffic, watercraft motors, and the routine operation and maintenance of the resort. If owls were nesting near the project area, noise from the project would not likely affect them.

The project would involve direct removal of habitat from a CHU. Although the project area is located in disturbed sites that are currently being utilized as parking and storage areas for existing designated recreational facilities, the habitat could still be considered potential foraging and/or dispersal habitat for the owl. The project would directly affect not more than one acre of land; therefore, the project would affect .005% of the LSR, .006% of the CHU, .025% of the NRF stand, and .004% of the Cultus Lake Subwatershed (see Table 1).

The project is subject to the Project Design Criteria described in the 2001-2003 Deschutes National Forest Programmatic BA. The following Criteria were determined to be applicable to the project.

Criterion Ia5: *All projects that are within suitable nesting, roosting, and foraging (NRF) habitat will be surveyed to regional protocol prior to habitat-disturbing activities (USDA and USDI 1994a) or seasonal restrictions will be implemented.*

This criterion is not yet met. The Resort Improvement Project area is within mapped NRF habitat; this project was surveyed according to Regional protocol in the summer of 2002 (meeting requirements of the first year of the two-year protocol). There were no detections of spotted owls during this survey. The vicinity was surveyed in 2000, but not to protocol; there were no responses. The area of the nest site was visited in 1993, 1995, and 1996, and a thorough search for the historic nest site was conducted in 1995, with no detections. The site will be surveyed to Regional protocol in the spring of 2003.

Due to the current levels of recreational use at Cultus Lake during the nesting season, and the availability of suitable nesting habitat in less disturbed areas in the vicinity, it is unlikely that habitats adjacent to Cultus Lake would support nesting spotted owls.

Criterion Ib1: *Within CHUs, LSRs, and Core areas, project activities will not remove, downgrade, or degrade the primary constituent elements for critical habitat (USDI 1992b). The physical and biological features include but are not limited to the following:*

(A) Dispersal - space for individual and population growth, and for normal behavior;
(B) Foraging - food, water, or other nutritional or physiological requirements;
(C) Roosting - habitat or shelter;
(D) Nesting - sites for breeding, reproduction, rearing of offspring; and
(E) Connectivity/fragmentation - habitats that are protected from disturbance or are representative of the historical, geographical, and ecological distributions of the species.

This criterion is NOT met. The project is located in a mapped NRF stand within the CHU. The localized sites that would be affected by the project are not currently suitable nesting or roosting habitat, but are suitable for foraging and dispersal. Removal of more than 200 trees from this site would remove and downgrade dispersal and foraging habitat within the CHU.

Criterion Ib2: *Within CHUs, LSRs, and Core areas, all vegetation manipulations within plant associations that are capable of sustaining NRF habitat need to promote the development of late-successional and old-growth conditions (USDA and USDI 1994a).*

This criterion is NOT met. The project area is located in a plant association (mixed conifer dry) that is capable of sustaining NRF habitat. The removal of over 200 trees from the project area does not promote the development of late-successional and old-growth conditions.

Due to the extremely limited size of the project relative to the entire LSR, CHU, and the Cultus Lake Subwatershed (see Table 1), direct effects, while present, would be minor. Overall, the project is expected to have a neutral effect on the LSR, CHU, the subwatershed, and the northern spotted owl.

Table 1. Percentage of Management Areas Affected by the Proposed Action.

	Cultus Mountain LSR (18,000 ac)	**Critical Habitat Unit (15,086 ac)**	**Cultus Lake Subwatershed (23,868 ac)**	**NRF Habitat within LSR (3,851 ac)**
Project Area (1 ac)	**.006%**	**.007%**	**.004%**	**.026%**
Boundary Increase (1.4 ac)	**.008%**	**.009%**	**.006%**	**.036%**
Total Resort Area Before Treatment (6.5 ac)	**.036%**	**.043%**	**.027%**	**.169%**
Total Resort Area after Increase (7.9 ac)	**.044%**	**.006%**	**.033%**	**.205%**

Indirect Effects

The project would increase the size of the Cultus Lake Resort by 1.4 acres, taking the total acreage of the Resort to 7.9 ac. The area intended to be incorporated into the boundary has already been in use by the Resort as a storage area, and is already in a disturbed condition. The project could indirectly affect the spotted owl because the additional 1.4 acres would be committed to the Resort. Overall, though, this would be an extremely minor change in available spotted owl habitat (see Table 1).

The project is intended to manage existing recreational use at the Resort, and is not expected to result in additional recreation-associated disturbance. No indirect effects due to increased disturbance are expected.

Cumulative Effects

Along with this project, the Cultus Lake Forest Service Improvements Project could take place in the Cultus Mountain LSR in the reasonably foreseeable future. The Forest Service Improvements Project would redesign the Cultus Lake Boat Ramp and adjacent parking areas, and is not likely to impact spotted owl habitat. An additional reasonably foreseeable action could occur if the new drain field should fail, in which case a new drain field, similar to the one described in this document, would need to be constructed. The proposed project addressed in this BA is of extremely limited scope (see Table 1) and it is unlikely that this project would exacerbate any effects that would happen as a result of the other projects proposed in this area.

Summary of Effects

The project is of limited scope and would occur in an area that is already disturbed and receiving recreational use. While the project is within a stand of mapped NRF habitat, disturbance associated with current levels of recreation would likely preclude any sustained use of this area by spotted owls. The historic spotted owl nest, whose .7-mi buffer encompasses the project area, is not thought to have been occupied since 1990 or earlier. The project design is not consistent with Project Design Criteria Ia5, Ib1, and Ib2 for the northern spotted owl; effects that downgrade or degrade the CHU would be present, but would be minor. The project **May Affect but is not Likely to Adversely Affect** the spotted owl and its habitat.

Appendix C

Interpretation of the Northwest Forest Plan Standards and Guidelines Regarding New Developments in Late-Successional Reserves (January 3, 2001)

Interpretation of the Northwest Forest Plan Standards and Guidelines Regarding New Developments in Late-Successional Reserves (January 3, 2001)

Principles in determining effects of proposal on Late-Successional (LSR) objectives

1. **Generally, locate new developments outside of LSRs whenever possible.** *The Cultus Lake Resort is located completely within the Cultus Mountain Late Successional Reserve. The current acreage of the resort area is 6.5 acres. The nearest Matrix lands are approximately one (1) mile from the Resort and would not be a reasonable location for facilities proposed to serve the resort. The proposal would increase the area of the resort by 1.4 acres, areas impacted by usual and customary use. The total LSR acreage is 18,000 acres. The increase constitutes less than .005 percent of the current LSR.*

2. **Propose new developments in an LSR that address public needs or provide significant public benefits that could not practicably be achieved by locating the proposed new development outside the LSR may be considered on a case-by-case basis.** *The resort is located approximately one mile from Matrix designated land and is within the Cultus Mountain LSR. The proposal to increase the permitted area of the resort by approximately 1.4 acres and upgrade and add facilities for the public benefit was considered to be unsubstantial. The areas that would be affected have already had usual and customary use, either through parking and storage or for firewood removal. The extent and location of the proposal relative to the Late Successional Reserve was considered. The amount of tree removal would be limited and would not significantly affect LSR objectives. Locating a parking area and shower and laundry facility with employee housing approximately one mile from the resort would be impractical.*

3. **The nature and magnitude of the public benefits are not factors contemplated by the ROD for use in determining conditions neutral or beneficial to the creation and maintenance of late-successional habitat at the appropriate spatial and temporal scales.** *Only the impacts to LSR objectives were considered in this proposal. The scale of impacts to the LSR is insignificant when considering the location of the resort, existing conditions and mitigations considered in the design of the alternatives.*

4. **New developments should not be placed in LSRs unless the development is designed and mitigated to a condition that is neutral or beneficial to the creation or maintenance of late-successional habitat at the appropriate spatial and temporal scales. Consider all 5 of the following CEQ mitigation measures:**
    - **Avoiding the impact altogether by not taking a certain action or parts of action.** *Effects of not implementing the proposal are described in the No Action Alternative.*
    - **Minimizing impacts by limiting the degree or magnitude of the action and its implications.** *The proposal is limited in size and is designed to reduce removal of old growth habitat and would not remove trees over 21 inches in diameter at breast height. The proposed activities would not take place in prime nesting or roosting habitat, but would occur within foraging and dispersal habitat. The activities would be within 300 feet of existing resort facilities and activities.*
    - **Rectifying the impact by repairing, rehabilitating or restoring the affected environment.** *The proposal would establish a resort permit boundary beyond which*

the permittee would not operate without further environmental analysis. Protection of the LSR beyond the permit boundary would be maintained.

- **Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.** *The designation of the permit boundary will clearly identify the limits of present and proposed resort activities.*
- **Compensating for the impact by replacing or providing substitute resources or environs.** *Replacing or providing substitute habitat is not necessary because of the limited impact of the proposal. The approximate 1.4 acres included in the proposal are acres that are, to some extent, already impacted due to the nature of the special use permit operations.*

Does the new development, as mitigated, result in a condition neutral or beneficial (i.e., to the creation and maintenance of late-successional habitat at the appropriate spatial and temporal scale).

4a. <u>Spatial Context:</u> The determination of the neutrality or benefit of a new development, as mitigated depends on the spatial context (or scale).

- **Effects of land management activities, including new developments, are evaluated in several spatial contexts. These include the site specific and its adjacent environment, the watershed (or major sub-watershed), the LSR, adjacent LSRs and non-LSR lands.** *Due to the limited size (less than 2 acres) of the proposed project relative to the entire LSR (18,000 acres), Critical Habitat Unit (CHU - 15,086 acres), Cultus Lake Subwatershed (23,868 acres), and Nesting, Roosting, and Foraging (NRF) Habitat within the LSR (3,851 acres), direct effects would be minor. Overall, the project is expected to have a neutral effect on the LSR, CHU, the subwatershed, and the northern spotted owl.*
- **The evaluation of the effects of a new development will focus on conditions that contribute to the functioning and enhancement of a late-successional forest ecosystem. Among the factors to be considered are the mitigated new development's effects on habitat fragmentation and connectivity, effects on the resultant quality and amount of late-successional habitat, and effects on late-successional species.** *The project is located in mapped NRF habitat within a CHU and LSR. The localized sites that would be affected by the project are not currently suitable nesting or roosting habitat, but are suitable for foraging and dispersal. Removal of 150 to 200 trees from this site would remove and alter but not downgrade dispersal and foraging habitat within the CHU.*
- **Where a new development's site-specific effects, as minimized and mitigated, result in an overall condition neutral or beneficial to the creation or maintenance of late-successional habitat, the new development would be consistent with the ROD.** *The project has been minimized and mitigated and results in an overall neutral condition.*

4b. <u>Temporal Context:</u> The determination of the neutrality or benefit of a new development as mitigated also depends on its temporal context (or scale).

- **The effect of the new development as mitigated on late-successional habitat is evaluated in several time frames. These include the effects of the seasons and duration of disturbance (for example, construction and use), and the time that would be required to regain or attain late-successional characteristics.** *The*

proposed activities would begin during the recreation season (summer and early fall) of 2003, nesting season of the northern spotted owl. Ambient noise associated with the project is not likely to be greater than the existing noise created by vehicle traffic, watercraft motors, and the routine operation and maintenance of the resort. If owls nest near the project area, noise from the project would not likely affect them. The project would involve direct removal of habitat from a CHU. Although the project area is located in disturbed sites currently being utilized for parking and storage, the habitat could still be considered potential owl foraging and/or dispersal habitat. The project would not affect more than one (1) acre of land, affecting .005 percent of the LSR, .006 percent of the CHU, .025 percent of the NRF stand, and .004 percent of the Cultus Lake Subwatershed. The project would utilize areas that are presently in a disturbed condition as a result of past resort use. These areas would be included within the surveyed and marked resort permit boundary. The project is intended to manage existing recreational use at the Resort, and is not expected to result in additional recreation-associated disturbance. No indirect effects due to increased disturbance are expected.

- **In some cases, when proposed projects would have heightened adverse effects because of their timing, the effects need to be mitigated to neutral or beneficial in the short-term, because the immediate effects would be unacceptable even if neutral of beneficial in the long term. In other cases, minimized adverse short-term effects may occur if the new development as mitigated is neutral or beneficial in the long term.** *The project is of limited scope and would occur in disturbed areas of the resort. The resort is not currently functioning as habitat for the spotted owl, and is not expected to provide habitat in the foreseeable future. Disturbance associated with current levels of recreation would likely exclude any sustained use of this area by spotted owls. The proposed activities would remove and downgrade existing habitat in the CHU (.006 percent). The project May Affect but is not likely to Adversely Affect the spotted owl and its habitat.*

<u>Cumulative Effects:</u> The determination of the neutrality or benefit of a new development as mitigated includes an analysis of the cumulative effects of other actions and events on the LSR and adjacent lands. These include recent and current management activities, reasonably foreseeable management actions, and recent natural events. *The Cultus Lake Forest Service Improvements Project could be implemented beginning in late summer, 2003. The project would be within the Cultus Mountain LSR. This project would include the replacement of the Cultus Lake Boat Ramp and redesign and improvement of the adjacent parking areas. A neutral effect on spotted owl habitat is expected. An additional reasonably foreseeable action could occur if the new drain field should fail, in which case a new drain field, similar to the one described in this document, would need to be constructed on less than two (2) acres. The proposed project is of limited scope and is unlikely to substantially increase cumulative effects in the Cultus Lake area.*

<u>Monitoring :</u> New developments in LSRs and their effects, as mitigated, should be incorporated into late successional / old growth effectiveness monitoring. *This project area was surveyed in 1993, 1995, 1996, 2000 and was surveyed to the Regional two-year survey protocol during the summer of 2002 and spring of 2003. There were no detections of spotted owls during these surveys. Due to the current levels of recreational use at Cultus Lake during the nesting season, and the availability of suitable nesting habitat in less disturbed areas in the vicinity, it is unlikely that habitats adjacent to Cultus Lake would support nesting spotted owls.*

Appendix D

Botany
Biological Evaluation

This is a biological evaluation to document consideration of TES plants related to the Cultus Lake Resort Parking Lot Addition Project request. It is prepared in compliance with the Forest Service Manual (FSM) 2672.4 and the endangered species Act of 1973 (Subpart B; 402.12, section 7 consultation).

Effects of this activity are evaluated for those Proposed, Endangered, Threatened or Sensitive species on the current Regional Forester's Sensitive species List (FSM 2670.44, Region 6 interim Directive No. 90-1, March 1991) that are documented or suspected to occur on the Deschutes National Forest.

Summary of Findings:

Project implementation would have no impact on Threatened, Endangered, or Sensitive plant species (TES).

Project Description (Proposed Alternative Action)

The project is located at the southeast end of Cultus Lake at the Cultus Resort. The project will provide a new defined parking area that would accommodate 18-20 vehicles to alleviate congestion and hazardous conditions. The dimensions of the parking area would measure approximately 60' x 120'. This area has previously served as outside storage for the resort and is no longer needed for that purpose. Approximately 35 trees between 5" and 21" DBH (diameter at breast height – 4.5' above the ground) would be removed.
A laundry and shower facility would be provided in order to provide services for long-term campers. The facility would be approximately 20' x 30' and would be located in an area outside of riparian vegetation, that requires minimal clearing of upland vegetation. A septic system would be installed to Department of Environmental Quality standards. A small, defined parking area adjacent to the facility would be provided for approximately six (6) vehicles. The dimensions of the parking area would be approximately 30' x 60'. Living quarters above the shower and laundry facilities would provide additional employee housing.

Prefield Review

Soils in the project area are sandy to loamy over glacial till. The plant association is mixed conifer/pinemat manzanita-princes pine. Slopes are about 5%. Elevations are 4680' to 4700'. Annual rainfall is about 20" to 30".

A 23 October 2001 pre-field review revealed no potential habitat for any TES plant species.

Alternative Actions

Proposed Action Alternative
Under the proposed action alternative the project, as described above, will take place.

No Action Alternative
Under the no action alternative the parking area will not be expanded.

Project Effects

Implementation of the proposed project will have no direct, indirect, or cumulative effects upon any TES plants or TES plant habitat because there is no TES plant habitat within the project area.

FINDING

Project implementation would have no impact upon any TES plants.

PREPARED BY:

Patricia Joslin

Re: Survey and Manage plant species within Cultus Resort Improvement Project
From: Patricia Joslin

This report documents the survey findings, project effects, and project recommendations regarding the Northwest Forest Plan (NFP) "Survey and Manage" plant species as they relate to the Cultus Resort Improvement project.

Considered in this document are those species from the vascular, bryophyte, lichen, and fungi plant groups identified in the Final Supplemental Environmental Impact Statement (FEIS): *For Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures* released in November 2000, as amended by the Record of Decision signed in January 2001. This SEIS modifies the Survey and Manage and related mitigation measures outlined in the 1994 Northwest Forest Plan Final SEIS.

See Appendix A for the Survey and Manage categories into which species are grouped; see Appendix B for a list and brief habitat description of the potential Deschutes National Forest species for which pre-disturbance surveys are required and for which any known sites are required to be managed; see Appendix C for a list of potential Deschutes National Forest species for which any known sites are required to be managed; and see Appendix D for expanded habitat descriptions and general location information for those species listed in Appendices B and C.

SUMMARY OF FINDINGS
There are no expected direct, indirect, or cumulative effects from the implementation of this alternative, because there are no known Survey and Manage sites located within the proposed project.

One way the NFP requires the Forest Service to address late-successional forest ecosystem function is through consideration of "Survey and Manage" species associated with this ecosystem. These are selected species of fungi, lichens, bryophytes, vascular plants, and invertebrate animals whose viability are of concern within this broad ecosystem type.
The November 2000 FEIS identifies six categories into which species are grouped. In order to fall into one of these categories, the species must meet three basic criteria:

1. The species must occur within the Northwest Forest Plan area, or occur close to the NFP area and have potentially suitable habitat within the NFP area.
2. The species must be closely associated with late-successional or old-growth forest.
3. The reserve system and other Standards and Guidelines of the NFP do not appear to provide for a reasonable assurance of species persistence.

All six categories contain a requirement to conduct "strategic surveys", which is something separate from project-level surveys and is not required to be addressed in this document.

Specific habitat information on Survey and Manage species is becoming better understood as species-specific surveys are conducted and data is compiled and compared. However, many habitat descriptions are based on relatively few records and will continue to be scrutinized and refined as new sites are discovered. The following discussion is an effort to assess and apply existing information as it relates to the Cultus Resort Improvement Project project.

PROJECT DESCRIPTION AND HABITATS

The project is located at the southeast end of Cultus Lake at the Cultus Resort. The project will provide a new defined parking area that would accommodate 18-20 vehicles to alleviate congestion and hazardous conditions. The dimensions of the parking area would measure approximately 60' x 120'. This area has previously served as outside storage for the resort and is no longer needed for that purpose. Approximately 35 trees between 5" and 21" DBH (diameter at breast height – 4.5' above the ground) would be removed.

A laundry and shower facility would be provided in order to provide services for long-term campers. The facility would be approximately 20' x 30' and would be located in an area outside of riparian vegetation, that requires minimal clearing of upland vegetation. A septic system would be installed to Department of Environmental Quality standards. A small, defined parking area adjacent to the facility would be provided for approximately six (6) vehicles. The dimensions of the parking area would be approximately 30' x 60'. Living quarters above the shower and laundry facilities would provide additional employee housing.

A 23 October 2001 prefield review determined a low probability for *Tetraphis geniculata*, a Survey and Manage moss species.

VASCULAR PLANTS

There is no habitat present within the project area for *Botrychium minganense* and *B. montanum*, the two grape-fern species that require pre-disturbance surveys if habitat is present. Additionally, there are no known sites present within the project area for these species that would, according to FEIS direction, require management of those sites.

NON-VASCULAR PLANTS

BRYOPHYTES

Of the bryophytes requiring pre-disturbance survey if habitat is present, there is no habitat present within the project area for *Schistostega pennata*, *Marsupella emarginata* var. *aquatica* and *Tritomaria exsectiformis*, that would, according to FEIS direction, require management of those sites. There is potential habitat present within the Cultus Resort Improvement Project for *Tetraphis geniculata*.

LICHENS

There is no habitat present within the project area for the one lichen, *Pseudocyphellaria rainierensis*, that requires pre-disturbance survey if habitat is present. Additionally, there are no known sites present within the project area for this species that would, according to FEIS direction, require management of those sites.

FUNGI

There is no habitat present within the project area for the one fungi species, *Bridgeoporous nobilissimus*, that requires pre-disturbance survey if habitat is present. Additionally, there are no known sites present within the project area for this species or the five other species (*Bondarzewia mesenterica, Otidea leporina, Otidea smithii, Polyozellus multiplex, Sowerbyella rhenana*) that would, according to FEIS direction, require management of those sites.

SURVEY

A survey was conducted within the Cultus Resort Improvement Project area on 1 November, 2001 by a Forest Service botanist; no Survey and Manage species were located. The survey form is on file at the Bend/Ft. Rock Ranger District office.

PROJECT EFFECTS

Alternative A - No Action

Direct, Indirect and Cumulative Effects: There are no expected direct, indirect, or cumulative effects to Survey and Manage species in this alternative, because there are no Survey and Manage sites located within this area.

Alternative B (Proposed Action)

Direct, Indirect, and Cumulative Effects: There are no expected direct, indirect, or cumulative effects from the implementation of this alternative, because there are no Survey and Manage sites located within the proposed project that are present.

REFERENCES AND COMMUNICATIONS

Marv Lang, Recreation Forester, Bend/Fort Rock Ranger District.

David Franz, NEPA Co-ordinator, Bend/Fort Rock Ranger District

Bend/Ft. Rock Ranger District Survey and Manage species atlas.

USDA Forest Service, USDI Bureau of Land Management. 2000. Final Supplemental Environmental Impact Statement: *For Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures, Standards and Guidelines*, Volumes I and II.

USDA Forest Service, USDI Bureau of Land Management. January 2001. Record of Decision and Standards and Guidelines: *For Amendment to the Survey and Manage, Protection Buffer, and other Mitigation Measures, Standards and Guidelines*

APPENDIX A
SURVEY AND MANAGE CATEGORIES

Category 1A **–** Rare species. Pre-disturbance surveys are practical. The objective of this category is to manage all known sites and minimize inadvertent loss of undiscovered sites. ***Management direction includes manage all known sites, survey prior to habitat-disturbing activities, and conduct strategic surveys***.

Category 1B – Rare species. Pre-disturbance surveys are not practical. The objective of this category is to manage all known sites and minimize inadvertent loss of undiscovered sites. ***Management direction includes manage all known sites and conduct strategic surveys.***

Category 1C – Uncommon species. Pre-disturbance surveys are practical. The objective of this category is to identify and manage high-priority sites. Until high-priority sites can be determined, all known sites are managed. ***Management direction includes manage high-priority sites, survey prior to habitat-disturbing activities, and conduct strategic surveys.***

Category 1D – Uncommon species. Pre-disturbance surveys are not practical or not necessary. The objective of this category is to identify and manage high-priority sites. Until high-priority sites can be determined, all known sites are managed. ***Management direction includes manage high-priority sites and conduct strategic surveys.***

Category 1E – Rare species for which status is undetermined. The objective is to manage all known sites while determining if the species meets the basic criteria for Survey and Manage. ***Management direction includes manage all known sites and conduct strategic surveys.***

Category 1F – Uncommon species for which status is undetermined. The objective is to determine if the species meets the basic criteria for Survey and Manage. ***Management direction includes conduct strategic surveys***.

APPENDIX B

Species for which pre-disturbance surveys are required and all known sites are required to be managed (from Categories 1A and 1C):

Species by Group	**Category**	**Brief Habitat Description**
Vascular Plants		
Botrychium minganense	1A	Riparian corridor; Engelmann spruce/lodgepole
Botrychium montanum	1A	Wet lodgepole openings; often with *B. minganense*
Mosses		
Schistostega pennata*	***1A***	***Damp caves/crevices & on root masses; humid***
Tetraphis geniculata	1A	Large rotten stumps/logs in shaded humid sites
Fungi		
Bridgeoporous nobilissimus	1A	Conk on large dead noble firs
Lichens		
Pseudocyphellaria rainierensis	1A	On west-side conifer & hardwood species

* Occurs on Deschutes National Forest.

APPENDIX C

Species for which all known sites are required to be managed, no pre-disturbance surveys required (from Categories 1B, 1D, and 1E):

Species by Group	Category	Brief Habitat Description
Mosses		
Buxbaumia viridis*	***1D***	***Rotten stumps/logs in shaded humid sites***
Liverworts		
Marsupella emarginata var. *aquatica***	1B	Submerged in cold perennial fast-flowing streams
Tritomaria exsectiformis *	***1B***	***Damp rotten logs in seeps, springs***
Fungi		
Bondarzewia mesenterica	1B	Snags, stumps, and on soil near them.
Otidea leporina	1B	Forests w/significant conifer component
Otidea smithii	1B	Forests w/significant conifer component
*Polyozellus multiplex**	1B	Assoc. w/roots of true firs, often in intermittent
Sowerbyella rhenana	1B	Forests w/significant conifer component

* Occurs on Deschutes National Forest.

** Occurs near Deschutes National Forest, at Waldo Lake (Willamette National Forest).

APPENDIX D

Expanded habitat descriptions of Survey and Manage species considered in this document

Vascular Plants

Botrychium minganense, Mingan moonwort. It is associated with riparian zones and old-growth western redcedar (*Thuja plicata*) in dense shade, sparse understory, an alluvium substrate, and often a duff layer of *Thuja* branchlets. It has also been found in subalpine meadows, mossy talus slopes under bigleaf maple, road cuts, shrub lands, and alder thickets. Additionally, it has been located in western hemlock/devil's club, western hemlock/wild ginger, and Englemann spruce-lodgepole/ *Vaccinium myrtillus* plant associations. There is no potential habitat for this plant within the project area. Survey and Manage Category 1A.

Botrychium montanum, mountain grapefern. In general, this grapefern occurs in dark coniferous forests, usually near swamps and streams from 3,300 – 9,800 feet in elevation. Within the range of the northern spotted owl, the typical habitat for *B. montanum* has been characterized as *Thuja plicata* (western redcedar) swamps. On the west side of the Cascade Range, this species seems to require shaded, relatively moist (but not flooded) sites, with a minimum of understory competition. On the east side of the Cascades, this grapefern may also be found in lodgepole forests with an understory of *Vaccinium scoparium*, *Fragaria virginiana*, *Viola adunca*, and *Hypericum anagaloides*. There is no potential habitat for this species within the project area. Survey and Manage Category 1A.

Bryophytes

Buxbaumia viridis, bug-on-a-stick moss. It is found on rotten logs, peaty soil and humus, in dense, shady and humid coniferous forest, at low elevation to subalpine elevations. It is dependent on shade, and a supply of moist logs in an advaced state of decay. It is interruptedly circumboreal - Europe, China, western North America. In our area it is found in British

Columbia, Alberta, Idaho, Montana, Colorado, Washington and Oregon. It has been located on all three ranger districts of the Deschutes National Forest; a sizeable population has been found in the Browns Mountain area of the Bend/Ft. Rock Ranger District. Survey and Manage Category 1D.

Schistostega pennata, luminous moss, goblin gold, cave moss. It is found on damp rock, soil and decaying wood, and in dark places such as the openings of caves or mine shafts, in rock crevices, and in the root balls of fallen trees. It is circumboreal, and in our area it is known from from British Columbia, Alberta, Washington and Montana. Recently, it has been discovered at Diamond, Waldo and Odell Lakes, but there is no habitat present for it within the project area. Survey and Manage Category 1A.

Tetraphis geniculata, bent-kneed four-tooth moss, ant spearmoss. This moss forms small turves on well-rotted stumps and logs, rarely on rocks, in shaded humid locations at low to middle elevations. It is always associated with the common *Tetraphis pellucida*. There is potential habitat for this species adjacent to the moist area from which the trail is being removed. It was not found within the project during survey. Survey and Manage Category 1A.

Marsupella emarginata var. *aquatica*, stream ladderwort (liverwort). It is found on rocks in a cold, perennial, fast-flowing stream. It is known from only one site in western North America, in the outlet stream of Waldo Lake. Survey and Manage Category 1B.

Tritomaria exsectiformis, forest brownwort. It is a small liverwort that is found on peaty or humic soils, or rotting wood, often on creek banks. It is Arctic-boreal, and until recently was known only on the Deschutes National Forest in the 48 contiguous states. There are 5 known sites on the Deschutes; the head of Jack Creek (Sisters RD), Dell Springs (Crescent RD), Tumalo Falls and 2 sites in the Browns Creek area (Bend/Fort Rock RD). Recently, it was located at a site on the Umpqua NF. Survey and Manage Category 1B.

Fungi

Bridgeoporus nobilissimus (Listed as *Oxyporus nobilissimus* in the 1994 Record of Decision, ROD), Noble polypore. It is endemic to Washington and Oregon. It occurs in association with the collar or root crowns of large diameter (minimum 43 inches) old growth *Abies procera*, (noble fir) or *Abies amabilis* (Pacific silver fir) living trees, standing dead, snags and stumps. It is a large shaggy tan conk with the upper surface reminiscent of a green pizza with a crew cut. There is no potential habitat for this species within the project, nor was it seen during survey. Survey and Manage Category 1A.

Bondarzewia mesenterica, Bondarzewia polypore. Solitary or in groups under conifers, usually near stumps or trunks. Survey and Manage Category 1B.

Otidea leporina, rabbit ears. Known from conifer forests. Survey and Manage Category 1B.

Otidea smithii. Suspect on the Deschutes National Forest, and this project, under conifers. Survey and Manage Category 1B.

Polyozellus multiplex, blue chanterelle. It is associated with the roots of *Abies* in late successional, mid-elevational forests; also with aspen. It is widespread but rare except in the Rockies. It occurs primarily just east of the Cascade crest in the Pacific Northwest. There is one known site on the Deschutes National Forest, near Elk Lake. Survey and Manage Category 1B.

Lichens

Pseudocyphellaria rainierensis. It is known from five old-growth sites in Oregon and 11 sites in Washington. Four of the Oregon sites are on the Willamette National Forest and there is a site at Cape Perpetua, on the Siuslaw National Forest. It is a rare nitrogen-fixing lichen that occurs almost exclusively in stands older than 200 years. No potential habitat for this plant was found within the project. Survey and Manage Category 1A.

Re: Noxious Weed Risk Assessment for Cultus Resort Improvement Project

From: Pat Joslin

Summary of Finding: The Cultus Resort Improvement project poses a moderate risk of noxious weed introductions or spread. See page three for a discussion of ranking and for management recommendations.

Forest Service Manual (FSM) direction requires that Noxious Weed Risk Assessments be prepared for all projects involving ground-disturbing activities. For projects that have a moderate to high risk of introducing or spreading noxious weeds, Forest Service policy requires that decision documents must identify noxious weed control measures that will be undertaken during project implementation (FSM 2081.03, 29 November 1995).

Aggressive non-native plants, or noxious weeds, can invade and displace native plant communities causing long-lasting management problems. Noxious weeds can displace native vegetation, increase fire hazards, reduce the quality of recreational experiences, poison livestock, and replace wildlife forage. By simplifying complex plant communities, weeds reduce biological diversity and threaten rare habitats. Potential and known weeds for the Deschutes National Forest are listed in Appendix A.

In addition to noxious weeds, which are designated by the State, there is a group of non-native plants that are also aggressive though are not officially termed "noxious". These species are also included in this assessment.

PROJECT DESCRIPTION

The project is located at the southeast end of Cultus Lake at the Cultus Resort. The project will provide a new defined parking area that would accommodate 18-20 vehicles to alleviate congestion and hazardous conditions. The dimensions of the parking area would measure approximately 60' x 120'. This area has previously served as outside storage for the resort and is no longer needed for that purpose. Approximately 35 trees between 5" and 21" DBH (diameter at breast height – 4.5' above the ground) would be removed.
A laundry and shower facility would be provided in order to provide services for long-term campers. The facility would be approximately 20' x 30' and would be located in an area outside of riparian vegetation, that requires minimal clearing of upland vegetation. A septic system would be installed to Department of Environmental Quality standards. A small, defined parking area adjacent to the facility would be provided for approximately six (6) vehicles. The dimensions of the parking area would be approximately 30' x 60'. Living quarters above the shower and laundry facilities would provide additional employee housing.

No Action Alternative (Alternative 1)
Under the no action alternative the project would not take place.

Proposed Action (Alternative 2)
The proposed action is the project as desribed above.

RISK RANKING

Factors considered in determining the level of risk for the introduction or spread of noxious weeds are:

____ HIGH
Has to be a combination of the following three factors:
1. Known weeds in/adjacent to project area.
2. Any of vectors* #1-8 in project area.
3. Project operation in/adjacent to weed population.

___X___ MODERATE – for alternative 2
1. Any of vectors #1-5 present in project area.

___X___ LOW – for alternative 1
1. Any of vectors #6-8 present in project area.

OR

2. Known weeds in/adjacent to project area without vector presence.

Vectors (if contained in project proposal) ranked in order of weed introduction risk:

1. Heavy equipment (implied ground disturbance)
2. Importing soil/cinders
3. OHV's
4. Grazing (long-term disturbance)
5. Pack animals (short-term disturbance)
6. Plant restoration
7. Recreationists (hikers, mountain bikers)
8. Forest Service project vehicles

DISCUSSION OF RANKING

For Alternative 1, No Action Alternative

Noxious weeds are most frequently spread by vehicles that have been driven through noxious weed plants or soils containing noxious weed seed. Currently, there are no known sites of noxious weeds within the project area, but a low ranking was given because there is always a risk that weed parts and seed will be accidentally brought into the area by human activity.

For Action Alternative 2: A moderate ranking was given because, although there are no known noxious weeds within the project, the project involves ground disturbance and the use of gravel imported from outside the area.

MANAGEMENT RECOMMENDATIONS ; ALTERNATIVE 2

1. Use contract and permit clauses to prevent the introduction or spread of noxious weed by contractors and permitees. See Appendix B for the Equipment Cleaning Clause approved by the Regional Forester.
2. Use gravel from a known weed-free site.
3. After management activities seed with native plant species any areas that have been disturbed.
4. Monitor the project work area in the period after work is completed, map and pull any new noxious weed sites as necessary.
5. Give the resort owners noxious weed information so that they may be able to recognize any that may invade the resort area.

REFERENCES AND COMMUNICATIONS

David Frantz, NEPA Co-ordinator, Bend/Fort Rock Ranger District
Charmane Levack, District Ecologist, Bend/Fort Rock Ranger District

Deschutes National Forest Noxious Weed Control Environmental Assessment, September 1998
Tom D. Whitson, et al. 1991. *Weeds of the West*. The Western Society of Weed Science in cooperation with the Western States Land Grant Universities

APPENDIX E

DESCHUTES NATIONAL FOREST NOXIOUS WEED LIST
Updated 10/31/97

The following species are listed by the Oregon Department of Agriculture as noxious weeds. These are species designated by the Oregon State Weed Board as injurious to public health, agriculture, recreation, wildlife, or any public or private property.

Scientific Name	Common Name	Presence	Code
Agropyron repens	Quackgrass	Documented	AGRREP
Cardaria (=Lepidium) draba	Whitetop	Potential	CARDRA
Carduus nutans	Musk thistle	Potential	CARNUT
Carduus pycnocephalus	Italian thistle	Potential	CARPYC
Centaurea diffusa	Diffuse knapweed	Documented	CENDIF
Centaurea maculosa	Spotted knapweed	Documented	CENMAC
Centaurea pratensis	Meadow knapweed	Potential	CENPRA
Centaurea repens	Russian knapweed	Potential	CENREP
Centaurea solstitialis	Yellow starthistle	Potential	CENSOL
Centaurea virgata ssp. squarrosa	Squarrose knapweed	Potential	CENVIR
Cirsium arvense	Canada thistle	Documented	CIRARV
Cirsium vulgare	Bull thistle	Documented	CIRVUL
Conium maculatum	Poison hemlock	Potential	CONMAC
Cynoglossum officinale	Common houndstongue	Documented	CYNOFF
Cytisus scoparius	Scotch broom	Documented	CYTSCO
Euphorbia esula	Leafy spurge	Documented	EUPESU
Hypericum perforatum	St. Johnswort	Documented	HYPPER
Isatis tinctoria	Dyer's woad	Documented	ISATIN
Kochia scoparia	Kochia	Potential	KOCSCO
Linaria dalmatica	Dalmation toadflax	Documented	LINDAL
Linaria vulgaris	Butter and eggs	Documented	LINVUL
Lythrum salicaria	Purple loosestrife	Potential	LYTSAL
Onopordum acanthium	Scotch thistle	Documented	ONOACA
Salvia aethiopis	Mediterranean sage	Potential	SALAET
Senecio jacobaea	Tansy ragwort	Documented	SENJAC
Taeniatherum caput-medusae	Medusahead	Documented	TAECAP